Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application (material to be inserted is in underline, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[ ]].

1. (Currently amended) A Geneva mechanism for providing intermittent motion, comprising:

a drive gear adapted to receive rotational input, the drive gear having a drive cam structure and a set of drive teeth; and

a driven gear having a driven cam structure and a set of driven teeth, wherein the driven cam structure is adapted to engage the drive cam structure and align the set of drive teeth with the set of driven teeth to position the set of drive teeth to engage the set of driven teeth for selective transmission of the rotational input; wherein the driven gear has an engaged configuration, in which the driven teeth engage the drive teeth to cause the driven gear to counter rotate relative to the drive gear, and further wherein the driven gear has at least two non-rotating configurations, in which the drive cam structure and the driven cam structure are adapted to prevent the driven gear from rotating;

wherein the engaged configuration defines a first plane of interaction and at least one of the non-rotating configurations defines a second plane of interaction which is different from the first plane of interaction.

2. (Currently amended) ~~The gear system of claim 1,~~A Geneva mechanism for providing intermittent motion, comprising:

a drive gear adapted to receive rotational input, the drive gear having a drive cam

structure and a set of drive teeth, the drive cam structure having an outer surface of a generally inwardly facing curvature and including ~~includes~~ a cam recess region having a generally outwardly facing curvature and a drive cam-bearing surface[[,]]; and

a driven gear having a driven cam structure and a set of driven teeth, wherein the driven cam structure includes at least two bearing surface regions and a cam lobe portion[[,]];

wherein the driven cam structure is adapted to engage the drive cam structure and align the set of drive teeth with the set of driven teeth to position the set of drive teeth to engage the set of driven teeth for selective transmission of the rotational input; wherein the driven gear has an engaged configuration, in which the driven teeth engage the drive teeth to cause the driven gear to counter rotate relative to the drive gear, and further wherein the driven gear has at least two non-rotating configurations, in which the drive cam structure and the driven cam structure are adapted to prevent the driven gear from rotating; and

wherein, when the gear system is in the engaged configuration, the cam lobe portion engages the cam recess region and aligns the drive teeth and the driven teeth for rotational engagement, and further wherein, when the gear system is in either of the non-rotating configurations, one of the bearing surface regions slides along the drive cam-bearing surface forming a contact area as the drive gear rotates, preventing the driven gear from rotating.

3. (Original) The gear system of claim 2, wherein the cam recess region includes alignment guide surfaces adapted to guide the cam lobe portion into the cam recess and align the drive teeth and the driven teeth for engagement.

4. (Previously presented) The gear system of claim 3, wherein the cam recess region includes extended drive teeth formed by a portion of the set of drive teeth, which are longer axially than a remaining portion of drive teeth of the set.

5. (Original) The gear system of claim 2, wherein the drive cam-bearing surface includes a surface extension region adapted to increase the contact area between the drive cam-bearing surface and the bearing surface region.

6. (Original) The gear system of claim 5, wherein the surface extension region is an axially upstanding arcuate perimeter rim.

7. (Previously presented) The gear system of claim 2, wherein the cam lobe portion includes a set of cam lobe teeth formed from a portion of the set of driven teeth, which extend axially from a remaining portion of driven teeth of the set.

8. (Original) The gear system of claim 2, wherein the drive cam structure includes a perimeter flange adapted to axially align the drive gear and the driven gear.

9. (Original) The gear system of claim 8, wherein the perimeter flange includes the drive cam-bearing surface.

10. (Original) The gear system of claim 9, wherein the cam lobe portion is adapted to slidingly engage the drive cam-bearing surface on the perimeter flange when the gear system is in either of the non-rotating configurations.

11. (Original) The gear system of claim 2, further comprising an axial alignment structure attached to at least one of the drive gear and driven gear and configured to extend at least partially over the other of the drive gear and driven gear.

12. (Original) The gear system of claim 11, wherein the axial alignment structure includes a disk.

13. (Original) The gear system of claim 2, wherein at least one of the drive gear and driven gear is plastic.

14. (Currently amended) A gear system comprising:

twin interengaged, motion coupled, substantially overlapping ~~substantially parallel axis~~ rotors operatively mounted on substantially parallel axes for juxtaposed relative intermittent rotation, each rotor including:

a toothed region which lies along an arc that is less than a full circle; and

a cam region including a portion of which lies substantially outside that arc toothed region, said rotors being operatively positioned relative to one another in a manner which enables two different characters of interengaged relative rotating motion, one of said characters involving tooth-region to tooth-region driving interengagement in a first plane of interaction, wherein the two rotors counter rotate relative to one another, with one rotor driving the other rotor, and the other character involving sliding surface to sliding surface, non-driving interengagement in a second plane of interaction different from the first plane of interaction, wherein said one rotor rotates and the other rotor is stationary, the first character of interengaged relative rotation motion occurring at a predefined sweep of angular relation between the twin rotors and the second character of interengaged relative rotation motion occurring at two predefined angular relations between the twin rotors positioned on either side of the sweep that defines the first character of interengaged relative rotation.

15. (Original) The gear system of claim 14, wherein said toothed regions include portions extending across a common plane which is spaced from and generally normal to said axes.

16-33. (Canceled)

34. (Previously presented) A gear system for providing intermittent motion, the system comprising:

a drive gear having a set of drive teeth and a means to selectively engage a set of driven

teeth on a corresponding driven gear;

a driven gear having a set of driven teeth including a portion of extended driven teeth that are longer axially than a remaining portion of driven teeth of the set, and a means to align the set of driven teeth with the set of drive teeth of the drive gear; and

at least two rotation locking means for preventing the driven gear from rotating in response to a rotation of the drive gear.

35. (Previously presented) A gear system for providing intermittent motion, comprising:

a drive gear adapted to receive rotational input, the drive gear having a drive cam structure and a set of drive teeth including a portion of extended drive teeth which are longer axially than a remaining portion of teeth of the set; and

a driven gear having a driven cam structure and a set of driven teeth; wherein the driven gear and the drive gear are operatively associated for selective transmission of the rotational input; wherein the driven gear has an engaged orientation, in which the drive teeth engage the driven teeth to cause the driven gear to counter rotate relative to the drive gear; and further wherein the driven gear has at least two non-rotating orientations, in which the drive cam structure and the driven cam structure are adapted to prevent the driven gear from rotating.

36. (Previously presented) The gear system of claim 35, wherein the drive cam structure includes a cam recess region and a drive cam-bearing surface, and wherein the driven cam structure includes at least two bearing surface regions and a cam lobe portion, wherein when the gear system is in the engaged orientation the cam lobe portion engages the cam recess region and aligns the drive teeth and the driven teeth for rotational engagement, and further wherein when the gear system is in either of the non-rotating orientations one of the bearing surface

regions slides along the drive cam-bearing surface forming a contact area as the drive gear rotates, preventing the driven gear from rotating.

37. (Currently amended) The gear system of claim 36, wherein the cam recess region includes alignment guide surfaces adapted to guide the cam lobe portion into the cam recess region and align the drive teeth and the driven teeth for engagement.

38. (Previously presented) The gear system of claim 37, wherein the cam recess region includes the extended drive teeth formed by a portion of the set of drive teeth, which are longer axially than a remaining portion of drive teeth of the set.

39. (Previously presented) The gear system of claim 36, wherein the drive cam-bearing surface includes a surface extension region adapted to increase the contact area between the drive cam-bearing surface and one of the bearing surface regions.

40. (Previously presented) The gear system of claim 39, wherein the surface extension region is an axially upstanding arcuate perimeter rim.

41. (Previously presented) The gear system of claim 36, wherein the cam lobe portion includes a set of cam lobe teeth formed from a portion of the set of driven teeth, which extend axially from a remaining portion of driven teeth of the set.

42. (Previously presented) The gear system of claim 36, wherein the drive cam structure includes a perimeter flange adapted to axially align the drive gear and the driven gear.

43. (Previously presented) The gear system of claim 42, wherein the perimeter flange includes the drive cam-bearing surface.

44. (Previously presented) The gear system of claim 43, wherein the cam lobe portion is adapted to slidingly engage the drive cam-bearing surface on the perimeter flange when the gear system is in either of the non-rotating orientations.

45. (Previously presented) The gear system of claim 36, further comprising an axial alignment structure attached to at least one of the drive gear and driven gear and configured to extend at least partially over the other of the drive gear and driven gear.

46. (Previously presented) The gear system of claim 45, wherein the axial alignment structure includes a disk.

47. (Previously presented) The gear system of claim 36, wherein at least one of the drive gear and driven gear is plastic.

48. (Previously presented) A gear system for providing intermittent motion, the system comprising:

a drive gear having a set of drive teeth including a portion of extended drive teeth that are longer axially than a remaining portion of teeth of the set, and a means to selectively engage a set of driven teeth on a corresponding driven gear;

a driven gear having a set of driven teeth and a means to align the set of driven teeth with the set of drive teeth of the drive gear; and

at least two rotation locking means for preventing the driven gear from rotating in response to a rotation of the drive gear.

49. (Currently amended) A gear system for providing intermittent motion, comprising:

a drive gear adapted to receive rotational input, the drive gear having a drive cam structure and a set of drive teeth, the drive cam structure <u>having a bearing surface of a generally inwardly facing curvature and </u>including a cam recess region that includes a bearing surface<u>, the cam recess region having a generally outwardly facing curvature</u>; and

a driven gear having a driven cam structure and a set of driven teeth, the driven cam structure including a cam lobe portion that includes a bearing surface configured to engage the cam recess bearing surface upon engagement of the drive teeth and the driven teeth; wherein the driven gear and the drive gear are operatively associated for selective transmission of the rotational input; wherein the driven gear has an engaged orientation, in which the drive teeth engage the driven teeth to cause the driven gear to counter rotate relative to the drive gear, and further wherein the driven gear has at least two non-rotating orientations, in which the drive cam structure and the driven cam structure are adapted to prevent the driven gear from rotating.

50. (Previously presented) The gear system of claim 49, wherein the cam recess bearing surface is adjacent the drive teeth, and the cam lobe bearing surface is adjacent the driven teeth.

51. (Currently amended) The gear system of claim 49, wherein the cam recess region includes alignment guide surfaces adapted to guide the cam lobe bearing surface into the cam recess region and align the drive teeth and the driven teeth for engagement.